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EXAMINER	
FILE, ERIN M	

ART UNIT	PAPER NUMBER
2634	

DATE MAILED: 12/28/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/978,186	DRAGONETTI, PHILIP GEORGE	
	Examiner	Art Unit	
	Erin M. File	2634	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 October 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-64* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-56 and 58-64* is/are rejected.

7)☒ Claim(s) *57* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-56, 58-64 are rejected under 35 U.S.C. 102(e) as being anticipated by Cangiani.

Claim 1, Cangiani discloses a method for:

- Modulating the phase and amplitude of a first component (fig. 4, S_1) of a carrier signal by controlling a state of a first phase modulator (S_1, 62) and a state of a first variable attenuator (S_1, 64)
- Modulating the phase and amplitude of a second component (S_2) of the carrier signal by controlling a state of a second phase modulator (S_2, 62) and a state of a second variable attenuator (S_2, 64).
- Combining the first and second components of the carrier signal to form the composite signal (66)

Claim 2, inherits the limitations of Claim 1. Cangiani further discloses that the composite signal is a constant-envelope signal (title).

Claim 3, inherits the limitations of Claim 2. Cangiani further discloses the composite signal is formed via interplex modulation (abstract).

Claim 4, inherits the limitations of Claim 1. Cangiani further discloses the input signal is a digital baseband signal ([0040], line 28).

Claim 5, inherits the limitations of Claim 1. Cangiani further discloses the digital signals are spread spectrum signals ([0022], line 5), and wherein the states of the first and second phase modulators (fig. 6, 33) and the first and second variable attenuators (32) are controlled by received signals X_1, X_2, X_3, X_4 at the chip rate of the spread spectrum signals ([0040]).

Claim 6, inherits the limitations of Claim 1. Cangiani further discloses the signals contain global positioning information ([0010], line 3).

Claim 7, inherits the limitations of Claim 1. Cangiani further discloses the signals used may be Code Division Multiple Access (CDMA) ([0022], line 6).

Claim 8, inherits the limitations of Claim 1. Cangiani further discloses the first and second components of the carrier signal are in-phase and quadrature components of a carrier signal (abstract).

Claim 9, inherits the limitations of Claim 1. Cangiani further discloses the first and second components of the carrier signal are modulated via phase shift keying (fig. 4, 62).

Claim 10, inherits the limitations of Claim 9. Cangiani further discloses the first and second components of the carrier signal are modulated via binary phase shift keying (fig. 4, 62).

Claim 11, inherits the limitations of Claim 1. Cangiani further discloses the plurality of digital signals includes three digital signals (fig. 4, S_1, S_2, S_3).

Claim 12, inherits the limitations of Claim 1. Cangiani further discloses the state of the attenuators is dynamically set to one of a plurality of levels in accordance with values of the digital signals (fig. 4, S_1, S_2, S_3) and the attenuation levels (G_1, G_2, G_3, G_4) effect a relative power distribution among the digital signals within the composite signal ([0047]).

Claim 13, inherits the limitations of Claim 1. Cangiani further discloses generating a plurality of phase control signals (fig. 4, S_1, S_2, S_3) and gain control signals (G_1, G_2, G_3, G_4) based on values of the digital signals (S_1, S_2, S_3).

Claim 14, inherits the limitations of Claim 1. Cangiani further discloses control of the first and second phase modulators and the first and second variable attenuators is programmable ([0011], 7-14).

Claim 15, inherits the limitations of Claim 1. Cangiani discloses control of the first and second phase modulators and the first and second variable attenuators is remotely reprogrammable ([0011], 7-14).

Claim 16,contains the limitations of Claim 1.

Claim 17, inherits the limitations of Claim 16. Further the limitations of Claim 17 are contained within the limitations of Claim 2.

Claim 18, inherits the limitations of Claim 17. Further the limitations of Claim 17 are contained within the limitations of Claim 3.

Claim 19, inherits the limitations of Claim 16. Further the limitations of Claim 19 are contained within the limitations of Claim 5.

Claim 20, inherits the limitations of Claim 16. Further the limitations of Claim 20 are contained within the limitations of Claim 8.

Claim 21, inherits the limitations of Claim 16. Further the limitations of Claim 21 are contained within the limitations of Claim 9.

Claim 22, inherits the limitations of Claim 21. Further the limitations of Claim 22 are contained within the limitations of Claim 10.

Claim 23, inherits the limitations of Claim 16. Further the limitations of Claim 23 are contained within the limitations of Claim 11.

Claim 24, inherits the limitations of Claim 16. Further the limitations of Claim 24 are contained within the limitations of Claim 13.

Claim 25, inherits the limitations of Claim 24. Further the limitations of Claim 24 are contained within the limitations of Claim 12.

Claim 26, inherits the limitations of Claim 16. Cangiani further discloses a signal generator configured to generate the digital signals in response to corresponding input signals (fig. 4, 60).

Claim 27, inherits the limitations of Claim 26. Cangiani further discloses the input signal is a digital baseband signal ([0040], line 28).

Claim 28, inherits the limitations of Claim 26. Cangiani further discloses the digital signals are spread spectrum signals ([0022], line 5), and the states of the first and second phase modulators (fig. 6, 33) and the first and second variable attenuators (32) are controlled by received signals X_1, X_2, X_3, X_4 at the chip rate of the spread spectrum signals ([0040]).

Claim 30, inherits the limitations of Claim 26. Cangiani further discloses control of the first and second phase modulators and the first and second variable attenuators is programmable ([0011], 7-14).

Claim 31, inherits the limitations of Claim 26. Cangiani further discloses a signal generator programmable to modify a mapping between the digital signals and the first and second phase control signals and the first and second gain control signals ([0049], [0073]).

Claim 32, inherits the limitations of Claim 26. Cangiani discloses signal generator is remotely reprogrammable ([0011], 7-14).

Claim 33, inherits the limitations of Claim 16. Further the limitations of Claim 33 are contained within the limitations of Claim 6.

Claim 34, inherits the limitations of Claim 16. Further the limitations of Claim 34 are contained within the limitations of Claim 7.

Claim 35, contains the limitations of Claim 1.

Claim 36, inherits the limitations of Claim 35. Further the limitations of Claim 36 are contained within the limitations of Claim 2.

Claim 37, inherits the limitations of Claim 35. Further the limitations of Claim 36 are contained within the limitations of Claim 3.

Claim 38, inherits the limitations of Claim 35. Further the limitations of Claim 38 are contained within the limitations of Claim 5.

Claim 39, inherits the limitations of Claim 35. Further the limitations of Claim 39 are contained within the limitations of Claim 8.

Claim 40, inherits the limitations of Claim 35. Further the limitations of Claim 40 are contained within the limitations of Claim 9.

Claim 41, inherits the limitations of Claim 35. Further the limitations of Claim 41 are contained within the limitations of Claim 10.

Claim 42, inherits the limitations of Claim 35. Further the limitations of Claim 42 are contained within the limitations of Claim 11.

Claim 43, inherits the limitations of Claim 35. Cangiani further discloses means for attenuating is dynamically setting a plurality of signals to attenuation levels (fig. 6, G_1, G_2, G_3, G_4, G_5, [0040]) and effecting a relative power distribution among the digital signals within the composite signal ([0054, lines 4-5).

Claim 44, inherits the limitations of Claim 35. Cangiani further discloses means for adjusting the first and second attenuation levels (fig. 6, G_1, G_2, [0040]) in accordance with adjustments in the relative power distribution among the digital signals ([0040], lines 4-5).

Claim 45, inherits the limitations of Claim 35. Further the limitations of Claim 45 are contained within the limitations of Claim 26.

Claim 46, inherits the limitations of Claim 45. Further the limitations of Claim 46 are contained within the limitations of Claim 27.

Claim 47, inherits the limitations of Claim 45. Further the limitations of Claim 47 are contained within the limitations of Claim 28.

Claim 48, inherits the limitations of Claim 45. Further the limitations of Claim 48 are contained within the limitations of Claim 29.

Claim 49, inherits the limitations of Claim 45. Further the limitations of Claim 49 are contained within the limitations of Claim 30.

Claim 51, inherits the limitations of Claim 45. Further the limitations of Claim 51 are contained within the limitations of Claim 32.

Claim 52, inherits the limitations of Claim 35. Further the limitations of Claim 52 are contained within the limitations of Claim 6.

Claim 53, inherits the limitations of Claim 35. Further the limitations of Claim 53 are contained within the limitations of Claim 7.

Claim 54, Cangiani discloses a programmable waveform generator (title) with a signal generator configured to generate the plurality of digital signals (fig. 4, 60) including an in-phase phase modulator (S_1, 62) for modulating the phase of the in-phase component

of the carrier signal and an in-phase variable attenuator (S_1, 64) for attenuating the amplitude of the in-phase component of the carrier signal in accordance with values of the digital signals; a quadrature phase modulator (S_1, 62) for modulating the phase of the quadrature component of the carrier signal; and a quadrature variable attenuator (S_1, 64) for attenuating the amplitude of the quadrature component of the carrier signal and combining the in-phase and quadrature components of the carrier signal to form the composite transmission signal (66).

Claim 55, inherits the limitations of Claim 54. Cangiani further discloses a signal generator comprising a digital bit stream generator (fig. 4, 60) configured to generate a plurality of digital bit streams from corresponding input data signals and a control signal generator configured to generate phase and gain control signals (X_1, X_2, X_3, X_4) from the digital bit streams, for controlling states of the in-phase and quadrature phase modulators and variable attenuators ([0040]).

Claim 56, inherits the limitations of Claim 55. Cangiani further discloses digital bit stream generator is programmable to facilitate modification of signaling parameters ([0022], lines 5-6).

Claim 58, inherits the limitations of Claim 55. Cangiani further discloses the digital signals are spread spectrum signals ([0022], line 5), and wherein the states of the first and second phase modulators (fig. 6, 33) and the first and second variable attenuators

(32) are controlled by received signals X_1, X_2, X_3, X_4 at the chip rate of the spread spectrum signals ([0040]).

Claim 59, Cangiani further discloses the in-phase (S_1, 62) and quadrature phase (S_2, 62) modulators are phase shift keyed modulators which respectively modulate the first and second components of the carrier signal via phase shift keying.

Claim 60, inherits the limitations of Claim 54. Cangiani discloses signal generator is remotely reprogrammable ([0011], line 14).

Claim 61, inherits the limitations of Claim 54. Cangiani further discloses the signals contain global positioning information ([0010], line 3).

Claim 62, inherits the limitations of Claim 54. Cangiani further discloses the digital signals are code division multiple access signals ([0022], line 6).

Claim 63, inherits the limitations of Claim 54. Cangiani further discloses that the composite signal generated by the programmable waveform generator is a constant-envelope signal (title).

Claim 64, inherits the limitations of Claim 54. Cangiani further discloses the composite signal generated by the programmable waveform generator is formed via interplex modulation (abstract).

Claim Objections

3. Claims 57 is objected to as dependent upon rejected claims, and would be allowable if rewritten in independent form.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Erin M. File whose telephone number is (571)272-6040. The examiner can normally be reached on M-F 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Chin can be reached on (571)272-3056. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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